

## **ARRAY OF NANOSCOPIC MOSFET TRANSISTORS AND FABRICATION METHODS**

### **ABSTRACT**

- 5 A nanoscopic transistor is made by forming an oxide layer on a semiconductor substrate, applying resist, patterning the resist using imprint lithography to form a pattern aligned along a first direction, applying a first ion-masking material over the pattern, selectively lifting it off to leave a first ion mask to form a gate, forming doped regions by implanting a suitable dopant, applying another layer
- 10 of resist and patterning the second resist layer using imprint lithography to form a second pattern aligned along a second direction, applying a second ion-masking material over the second pattern, selectively lifting it off to leave a second ion mask defined by the second pattern, and forming second doped regions in the substrate by implanting a suitable second dopant selectively in
- 15 accordance with the second ion mask. The method may be used to make an array of nanoscopic transistors.